SANTA CRUZ BIOTECHNOLOGY, INC.

DRG2 siRNA (h): sc-93839

BACKGROUND

DRG2 (developmentally regulated GTP binding protein 2) is a 364 amino acid cytoplasmic protein involved in cell proliferation, differentiation and death. A member of the DRG subfamily of the GTP-binding protein superfamily, DRG2 is highly expressed in kidney, heart and skeletal muscle, with low levels found in thymus, colon, spleen, lung, small intestine and leukocytes. DRG2 undergoes post-translational polyubiquitination, leading to proteolytic degradation. DRG2 interacts with RWDD1 (RWD domain containing 1), and is encoded by a gene that is located in a region on human chromosome 17 associated with Smith-Magenis syndrome (SMS). SMS is a disorder characterized by multiple congenital anomalies, abnormal sleep patterns, maladaptive repetitive and self-injurious actions and behavior problems.

REFERENCES

1. Schenker, T., et al. 1994. A novel GTP-binding protein which is selectively repressed in SV40 transformed fibroblasts. J. Biol. Chem. 269: 25447-25453.
2. Sprang, S.R. 1997. G proteins, effectors and GAPs: structure and mechanism. Curr. Opin. Struct. Biol. 7: 849-856.
3. Schenker, T. and Trueb, B. 1997. Assignment of the gene for a developmentally regulated GTP-binding protein (DRG2) to human chromosome bands 17p13→p12 by *in situ* hybridization. Cytogenet. Cell Genet. 79: 274-275.
4. Li, B. and Trueb, B. 2000. DRG represents a family of two closely related GTP-binding proteins. Biochim. Biophys. Acta 1491: 196-204.
5. Vlangos, C.N., et al. 2000. Assignment of developmentally regulated GTP-binding protein (DRG2) to human chromosome band 17p11.2 with somatic cell hybrids and localization to the Smith-Magenis syndrome critical interval. Cytogenet. Cell Genet. 88: 283-285.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 602986. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: DRG2 (human) mapping to 17p11.2.

PRODUCT

DRG2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DRG2 shRNA Plasmid (h): sc-93839-SH and DRG2 shRNA (h) Lentiviral Particles: sc-93839-V as alternate gene silencing products.

For independent verification of DRG2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-93839A, sc-93839B and sc-93839C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

DRG2 siRNA (h) is recommended for the inhibition of DRG2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DRG2 gene expression knockdown using RT-PCR Primer: DRG2 (h)-PR: sc-93839-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.